



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D5491-041
Job Sheet 181796-A

Accounting Job RD17-591-01



Part No: D5491-041

Job Qty: 1 ea

Part Name: Step Assembly



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 9/19/18

Job Tracking No:

Due Date: 8/13/18

Created By: Michelle Gagnon-Donovan

Type: R+D

Description:

Note: D5491 REV.B IPP REV:A 18.04.04 NEW ISSUE DD VERF:JFS IPP REV:B 18/08/02 AS PER DWG REV.B
JFS VERF BY:DP

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup	Run	Workcenter / Supplier	Lead Time	
90	Start up Operation	1 Ea		8/13/18	0.00	0.00	Start Up Small Fab-4		DAS 36
110	Small Fab	1 pcs		8/13/18	0.00	8.33	Small Fab-8		9-89 DAS 38
120	QC	1 pcs		8/13/18	0.00	0.00	QC5		38
130	SprayPaint	1 pcs		8/13/18	0.00	0.50	Spray Paint		A2 19-1-12 9-89
140	QC	1 pcs		8/13/18	0.00	0.00	QC14		11 18-0-1-1 38
150	HandFinish	1 pcs		8/13/18	0.00	0.50	HandFinish3		11 18-0-1-1 38
160	QC	1 pcs		8/13/18	0.00	0.00	QC3		DAS 38
170	Packaging	1 pcs		8/13/18	0.00	0.00	Packaging3-2		21 9-89
180	QC21-SA	1 Ea		8/13/18	0.00	0.00	QC21		21 9-89

Part Op 110 - 1- ASSEMBLE FIXTURE DT10384 WITH BLOC "A","B" AND "C" TO MANUFACTURE D5491-041. 2- ASSEMBLE
Descriptions: D5273-043 FITTINGS TO D5491-1 STEP WITH PROSEAL AS PER DWG A/R PROSEAL: 138976 3- INSERT
ALL PARTS TOGETHER IN FIXTURE DT10384 AND TRANSFER DRILL HOLES USING DT10186 FOR D5499-1 AND
DT 10185 FOR D5499-1 AS PER DWG AND NOTES 8,9. 4- DISASSEMBLE AND DEBURR. 5- a) USE DT10170 DRILL
JIG TO DRILL NUT PLATE HOLES IN D5627-1 TUBE AS PER DWG. b) DEBURR c) TOUCH UP HOLES WITH
ALODINE ONLY d) INSTALL NUTPLATES IN TUBES 6- TOUCH UP HOLES WITH ALODINE ONLY ON D5627 AND
D5273-041 FITTINGS. 7- USE DT10384 TO RE-ASSEMBLE REST OF THE PARTS TOGETHER USING PROSEAL AS
PER DWG A/R PROSEAL: 138976 CURE TIME 24h:
130 - Prime and paint as per dwg. ***MASK SLOTS AS PER NOTE 10*** Prime 138976 Paint 5140325
150 - 1- MASK SCREWS AS PER DWG AND APPLY WING WALK AS PER DWG. 2- INSTALL PLACARD AS PER
DWG. (NOTE11)



Container No: S111640



Part: D5491-041

Job No: 181796-A

Serial No/Batch: S111559

Revision: B

Inspector:

Exp Date:

Instructions: Various STC's

1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL: 1 613 632-5200
Email: sales@dartero.com
www.darterospace.com

Date: 01/10/19

'19/18 3:31 PM Dart.Gagnon.Michelle

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
CR3212-4-05	Cherry Rivet	6 Ea (6 ea)	90-Start up Operation	
CR3242-4-4	Rivet	8 Ea (8 ea)	90-Start up Operation	
D5273-043	End Fitting Assembly	1 Ea (1 ea)	90-Start up Operation	
D5291-041	Radius Block Assembly	3 Ea (3 ea)	90-Start up Operation	
D5491-1	Step Extrusion	1 Ea (1 ea)	90-Start up Operation	
D5499-1	Aft Bracket Mount	1 Ea (1 ea)	90-Start up Operation	
D5625-1	Receptacle	4 Ea (4 ea)	90-Start up Operation	
D5627-1	Tube	1 Ea (1 ea)	90-Start up Operation	
D5629-041	End Cap Assembly	1 Ea (1 ea)	90-Start up Operation	
MS21042L3	Nut	2 Ea (2 ea)	90-Start up Operation	
MS24694-S50	Screw	8 Ea (8 ea)	90-Start up Operation	
MS24694-S98	Screw	3 Ea (3 ea)	90-Start up Operation	
MS27039-1-10	Screw	1 Ea (1 ea)	90-Start up Operation	
MS27039-1-30	Screw	2 Ea (2 ea)	90-Start up Operation	
NAS1149D0332J	Washer	2 Ea (2 ea)	90-Start up Operation	
NAS1149D0363J	Washer	4 Ea (4 ea)	90-Start up Operation	
D2137	Decal(No Step)	1 Ea (1 ea)	150-HandFinish	

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	CR3212-4-05	6	188	0
	CR3242-4-4	8	392	0
	D5273-043	1	29	0
	D5291-041	3	179	0
	D5491-1	1	6	0
	D5499-1	1	7	0
	D5625-1	4	27	0
	D5627-1	1	6	0
	D5629-041	1	7	0
	MS21042L3	2	3,192	0
	MS24694-S50	8	343	0
	MS24694-S98	3	172	0
	MS27039-1-10	1	240	0
	MS27039-1-30	2	44	0
	NAS1149D0332J	2	1,958	0
	NAS1149D0363J	4	2,169	0
	D2137	1	11	0
150-HandFinish				

Part Specifications

Specifications could not be found.

Plex 9/19/18 3:31 PM Dart.Gagnon.Michelle



Dart Aerospace Ltd.
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D5491-041
Job Sheet 181796

Accounting Job RD17-591-01



Part No: D5491-041

Job Qty: 2 ea

Part Name: Step Assembly



Part Weight: 0 lbs

Status: Scheduled

Job Created: 8/9/18

Job Tracking No:

Due Date: 8/13/18

Created By: Marie Lajeunesse

Type: R+D

Description:

Note: D5491 REV.B IPP REV:A 18.04.04 NEW ISSUE DD VERF:JFS IPP REV:B 18/08/02 AS PER DWG REV.B
JFS VERF BY:DP

Ship Via:

POSITIVE RECALL

EFFECTIVE AUG 09 2018 AUTH 21

RELEASED DATE 9-88

Priority: Medium

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Lead Time
					Setup hrs	Run Hrs	Workcenter / Supplier		
90	Start up Operation	2 Ea	8/13/18	8/13/18	0.00	0.00	Start Up Small Fab-4		
110	Small Fab	2 pcs	8/13/18	8/13/18	0.00	16.67	Small Fab-8		
120	QC	2 pcs	8/13/18	8/13/18	0.00	0.00	QC5		
130	SprayPaint	2 pcs	8/13/18	8/13/18	0.00	1.00	Spray Paint		
140	QC	2 pcs	8/13/18	8/13/18	0.00	0.00	QC14		
150	HandFinish	2 pcs	8/13/18	8/13/18	0.00	1.00	HandFinish3		
160	QC	2 pcs	8/13/18	8/13/18	0.00	0.00	QC3		
170	Packaging	2 pcs	8/13/18	8/13/18	0.00	0.00	Packaging3-2		
180	QC21-SA	2 Ea	8/13/18	8/13/18	0.00	0.00	QC21		

SEP 18 2018
Sign-off

Part Op 110 - 1- ASSEMBLE FIXTURE DT10384 WITH BLOC "A","B" AND "C" TO MANUFACTURE D5491-041. 2- ASSEMBLE
Descriptions: D5273-043 FITTINGS TO D5491-1 STEP WITH PROSEAL AS PER DWG A/R PROSEAL: _____ 3- INSERT
ALL PARTS TOGETHER IN FIXTURE DT10384 AND TRANSFER DRILL HOLES USING DT10186 FOR D5499-1 AND
DT 10185 FOR D5499-1 AS PER DWG AND NOTES 8,9. 4- DISASSEMBLE AND DEBURR. 5- a) USE DT10170 DRILL
JIG TO DRILL NUT PLATE HOLES IN D5627-1 TUBE AS PER DWG. b) DEBURR c) TOUCH UP HOLES WITH
ALODINE ONLY d) INSTALL NUTPLATES IN TUBES 6- TOUCH UP HOLES WITH ALODINE ONLY ON D5627 AND
D5273-041 FITTINGS. 7- USE DT10384 TO RE-ASSEMBLE REST OF THE PARTS TOGETHER USING PROSEAL AS
PER DWG A/R PROSEAL: _____ CURE TIME 24h: _____
130 - Prime and paint as per dwg. ***MASK SLOTS AS PER NOTE 10***
150 - 1- MASK SCREWS AS PER DWG AND APPLY WING WALK AS PER DWG. 2- INSTALL PLACARD AS PER
DWG. (NOTE11)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
CR3212-4-05	Cherry Rivet	12 Ea (6 ea)	90-Start up Operation	5105480
CR3242-4-4	Rivet	16 Ea (8 ea)	90-Start up Operation	7153857
D5273-043	End Fitting Assembly	2 Ea (1 ea)	90-Start up Operation	7140321
D5291-041	Radius Block Assembly	6 Ea (3 ea)	90-Start up Operation	7140319
D5491-1	Step Extrusion	2 Ea (1 ea)	90-Start up Operation	5102174
D5499-1	Aft Bracket Mount	2 Ea (1 ea)	90-Start up Operation	3109113
D5625-1	Receptacle	8 Ea (4 ea)	90-Start up Operation	5067298
D5627-1	Tube	2 Ea (1 ea)	90-Start up Operation	5008043
D5629-041	End Cap Assembly	2 Ea (1 ea)	90-Start up Operation	5109857
MS21042L3	Nut	4 Ea (2 ea)	90-Start up Operation	5089340

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DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Skid-tube ☐</td> <td style="width:15%;">Cross tube ☐</td> <td style="width:15%;">Water Jet ☐</td> <td style="width:15%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition																					
				 Completed By and / Supervisor Approval Verification QA Coordinator Approval Ugert Aerospace Ltd. 1220 Aberdeen Street Brampton, ON K6A 1K7 CANADA TEL.: 1 613 632-5200 Email: sales@dartaero.com www.dartaerospace.com Container No: S111559 Part: D5491-041 Job No: 181796 Serial No/Batch: S111559 Revision: B Inspector: Exp Date: Instructions: Various STC's Date: 09/19/18																					
Root Cause																									
Environment ☐	☐	No Re-verification ☐	Pressure/Fc ☐					onned Wrong																	
Design ☐	☐	Operator ☐	Bending ☐					e Dimensions																	
Doc/Data ☐	☐	Offset/Setup ☐	Centre Not ☐					nder tolerance																	
Equip/Tooling ☐	☐	Supplier ☐	Cracks ☐					correct																	
Handling/Pre ☐	☐	Training ☐	Crimp/Kink/ ☐					st/Missing																	
Material ☐	☐	Use for Testing ☐	Cuffs ☐					oved																	
Internal Transport ☐	☐	Poor Information ☐	Crushing ☐				☐	Drawing																	
Tribal Knowledge ☐	☐	Rushing ☐	Heat Treat ☐	☐	Cut Too Short		☐	Finish																	
LOA ☐	☐	Product Improvement ☐	Wave/Twist in Tube ☐	☐	Instructions Incomplete/Unclear		☐	Misread																	
Substation ☐	☐	Process Improvement ☐	Marks/Chatter ☐	☐	Drill Holes		☐	Turning Sequence																	
Past Expiry Date ☐	☐	Manufacturing Process ☐																							
Misidentified ☐	☐	Past Due ☐	OTHER :																						

MS24694-S50	Screw	16 Ea (8 ea)	90-Start up Operation
MS24694-S98	Screw	6 Ea (3 ea)	90-Start up Operation
MS27039-1-10	Screw	2 Ea (1 ea)	90-Start up Operation
MS27039-1-30	Screw	4 Ea (2 ea)	90-Start up Operation
NAS1149D0332J	Washer	4 Ea (2 ea)	90-Start up Operation
NAS1149D0363J	Washer	8 Ea (4 ea)	90-Start up Operation
D2137	Decal(No Step)	2 Ea (1 ea)	150-HandFinish

5079113X15 5093692X1
5100421
5079834
5068615
5100407
5068667
5135081

Job Allocations

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Operation	Component Part	Required	Inventory	Allocated
90-Start up Operation	CR3212-4-05	12	0	0
	CR3242-4-4	16	408	0
	D5273-043	2	31	0
	D5291-041	6	185	0
	D5491-1	2	0	0
	D5499-1	2	1	0
	D5625-1	8	15	0
	D5627-1	2	0	0
	D5629-041	2	1	0
	MS21042L3	4	4,386	0
	MS24694-S50	16	455	0
	MS24694-S98	6	210	0
	MS27039-1-10	2	342	0
	MS27039-1-30	4	48	0
150-HandFinish	NAS1149D0332J	4	2,887	0
	NAS1149D0363J	8	1,919	0
	D2137	2	15	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
		OTHER :			